

# INDEX TO ECOLOGY, VOLUME 77, 1996

## AUTHOR INDEX

- A**  
Abrams, P. A., 610, 1125, 1321  
Adams, D. J., 1151  
Affre, L., 791  
Ågren, J., 1779  
Alexander, H. M., 990  
Alfaro, S., 1698  
Allen, P. E., 922  
Andersen, R., 1493  
Anderson, T. W., 300  
Andersson, J., 900  
Anghera, M., 300  
Anholt, B. R., 157  
Antonovics, J., 990  
Ariawan, H., 1975  
Arthur, S. M., 215  
Åström, M., 1942  
Astuti, E. T., 1975
- B**  
Baker, R. L., 1116  
Baldwin, I. T., 236  
Ball, S. L., 1116  
Baskaran, K., 568  
Basset, Y., 1906  
Bateson, M., 1303  
Bauwens, D., 1818  
Becker, E. F., 1297  
Belliere, J., 1163  
Bennetts, R. E., 2549  
Blaustein, A. R., 2196  
Boettner, G. H., 2332  
Bolser, R. C., 2269  
Bootsma, H. A., 1286  
Bowers, M. D., 535  
Bowman, W. D., 1277  
Boy, V., 1143  
Boyd, I. L., 426  
Bradbury, J. W., 2237  
Brawn, J. D., 3  
Briggs, C. J., 2001  
Brown, D., 1586  
Brown, J. H., 746  
Brown, J. M., 617  
Brown, W. S., 2421  
Brunet, J., 2458  
Brunkow, P. E., 1483  
Bryant, D. M., 1181  
Bugmann, H. K. M., 2055  
Buonaccorsi, J. P., 201, 2332  
Burand, J. P., 201  
Burke, I. C., 2516  
Burke, M. J. W., 776  
Butler, M. J., IV, 2558
- C**  
Cahyana, W., 1975  
Callaway, R. M., 1189, 1410, 2130  
Campbell, D. R., 1463  
Canadell, J., 2505  
Carey, J. R., 1690  
Carlton, J. T., 1653, 1686  
Carpenter, S. R., 677, 725  
Carrascal, L. M., 1163
- Case, T. J., 118  
Caselle, J. E., 2488  
Castilla, A. M., 1818  
Caswell, H., 870  
Cézilly, F., 1143  
Chapin, F. S., III, 822, 2142, 2302, 2505  
Chittka, L., 1043  
Christensen, D. L., 725  
Chumbley, C., 2148  
Clark, J. S., 2148  
Clay, K., 997  
Clifton, K. E., 2237  
Clifton, L. M., 2237  
Coleman, D. C., 694  
Collins, J. P., 320, 1483  
Connell, J. H., 108  
Contreras, L. C., 133  
Cottingham, K. L., 725  
Cowling, R. M., 2043  
Crone, E. E., 289  
Cronin, G., 1531, 2287  
Cross, A. F., 364  
Crowley, P. H., 191  
Cummings, V. J., 2472
- D**  
D'Amico, V., 201  
Daehler, C. C., 663  
Dai, T., 276  
Dale, S., 461  
David, J., 805  
De Forest, L. N., 1501  
de Meeûs, T., 2203  
de Ruiter, P. C., 694  
Debussche, M., 791  
DeLucia, E. H., 2130  
Díaz, J. A., 1163  
Dobson, A., 1026  
Doebeli, M., 510  
Donazar, J. A., 69  
Drake, J. A., 670  
Dwyer, G., 201
- E**  
Ebeling, A. W., 300  
Eklöv, P., 900  
Elkinton, J. S., 201, 2332  
Ellison, A. M., 2431  
Ellner, S. P., 2382  
Ellsworth, D. S., 581  
Elston, D. A., 2538  
Escarre, J., 791
- F**  
Farnsworth, E. J., 2431  
Fay, P. A., 521  
Feinsinger, P., 550  
Ferrer, M., 69  
Finzi, A. C., 791  
Fishbein, M., 1061  
Fitter, A., 1661  
Fitzpatrick, J. W., 2373  
Flather, C. H., 28  
Flecker, A. S., 1845
- Floyd, T., 1544  
Foster, R. B., 561  
Foufopoulos, J., 681  
Frank, D. A., 974  
Freckman, D. W., 694  
Friedman, J. M., 2167  
Fuller, C. A., 2196  
Furness, R. W., 1181
- G**  
Garde, K., 2108  
Gardner, R. H., 94  
Gardner, S. N., 880  
Garner, G. W., 215  
Gaston, A. J., 1501  
Getz, W. M., 2014  
Gilbert, J. J., 1174  
Gillingham, M. P., 435  
Godin, J. J., 1586  
Gordon, D. M., 2393  
Gordon, I. J., 2538  
Gotelli, N. J., 630  
Gower, S. T., 1750  
Graham, K. R., 933  
Granström, A., 1436  
Grant, B. R., 489, 500  
Grant, P. R., 500  
Greene, D. F., 595  
Grime, J. P., 776  
Grosholz, E. D., 1680  
Guglielmo, C. G., 1103  
Gustafson, E. J., 94  
Gutiérrez, J. R., 133
- H**  
Haase, P., 1420  
Hahn, D. C., 2528  
Hairston, N. G., Jr., 2382  
Hakim, A. L., 1975  
Hakkarainen, H., 1134  
Hall, V. R., 950  
Hamel, J., 1600  
Hamilton, P. B., 1556  
Hanscom, Z., III, 2312  
Harlow, P. S., 1808  
Hartley, A. E., 364  
Hartnett, D. C., 521  
Hastings, A., 1675  
Hatfield, C. A., 805  
Haukioja, E., 2302  
Havskum, H., 2108  
Hay, M. E., 1531, 1950, 2269, 2287  
Hazzard, A. M., 2332  
Healy, W. M., 2332  
Hecky, R. E., 1286  
Hecnar, S. J., 2091  
Heffner, R. A., 2558  
Heim, M., 1493  
Heimpel, G. E., 2410  
Hertz, P. E., 1818  
Heske, E. J., 746  
Hess, G., 1617  
Hesslein, R. H., 1286  
Hewitt, C. L., 670  
Hewitt, J. E., 2472

Higgins, S. I., 2043  
 Hindayana, D., 1975  
 Hjeljord, O., 1493  
 Hogg, I. D., 395  
 Holmes, R. T., 36  
 Holyoak, M., 1867  
 Hopper, K. R., 191  
 Hourdequin, M., 912  
 Hraber, P. T., 805  
 Hughes, T. P., 108, 950, 1592, 2256  
 Huisman, J., 736  
 Hungate, B. A., 2505  
 Hunt, H. W., 694  
 Hurd, L. E., 2219  
 Huxel, G. R., 670

## I

Illius, A. W., 2538  
 Ims, R. A., 1196, 2365  
 Inselberg, A., 1254  
 Ives, A. R., 681

## J

Jablonski, D., 1367  
 Jackson, S. T., 1765  
 Jaffee, B. A., 690  
 Jaksic, F. M., 133  
 Jakubas, W. J., 1103  
 James, F. C., 13  
 Jarosz, A. M., 990  
 Johannesen, E., 1196  
 Johnson, A. R., 805, 1143  
 Johnson, E. A., 595  
 Johnson, L. E., 1686

## K

Karasov, W. H., 1103  
 Kareiva, P., 337, 1651, 1670, 1963  
 Karlson, R. H., 1592  
 Karlson, S. R., 1592  
 Kearns, C. M., 2382  
 Keddy, P. A., 259  
 Keitt, T. H., 805  
 Kelly, R. H., 2516  
 Kelt, D. A., 746  
 Kerfoot, W. C., 2312  
 Kielman, D., 191  
 Killingbeck, K. T., 1716, 1728  
 Kindvall, O., 207  
 King, L., 1189  
 Kittell, J. F., 725  
 Klopfer, E. D., 681  
 Klug, J. L., 681  
 Knapp, A. K., 521, 1738  
 Knight, T. W., 1756  
 Koptur, S., 964  
 Korpimäki, E., 1134  
 Kot, M., 2027  
 Kover, P., 997  
 Kratz, K. W., 1573  
 Krause, J., 1586  
 Kuhry, P., 271  
 Kulig, A. W., 2393  
 Kuris, A. M., 1989

## L

Lafferty, K. D., 1390, 1989  
 Landsberg, J. J., 1750  
 Lauenroth, W. K., 2516

Lavoie, C., 1226  
 Law, R., 762  
 Lawler, S. P., 1867  
 Lawton, J. H., 665  
 Lawton, R. O., 1271  
 Lean, D. R. S., 1556  
 Lee, D. W., 568  
 Legendre, P., 1698  
 Lenski, R. E., 2119  
 Lertzman, K. P., 1254  
 Lestari, A. S., 1975  
 Levin, S. A., 375  
 Lewis, M. A., 2027  
 Lewis, W. M., Jr., 2167  
 Liebhold, A. M., 2332  
 Light, T., 1666  
 Link, W. A., 1633, 2528  
 Lipson, D. A., 1277  
 Losos, J. B., 1344  
 Lovvorn, J. R., 435

## M

Madsen, B. J., 1765  
 Madsen, T., 149  
 Mangel, M., 880, 2410  
 Manly, B. F., 81, 215  
 Mansor, M., 568  
 Maret, T. J., 320  
 Marquet, P. A., 746  
 Martí, E., 854  
 Martínez del Río, C., 912  
 Marvier, M. A., 1398  
 Matsuda, H., 610  
 Maurer, B. A., 1, 59  
 Mazumder, A., 1556  
 McCloskey, R. T., 2091  
 McCulloch, C. E., 13  
 McDonald, D. B., 2373  
 McDonald, L. L., 215  
 McElhany, P., 1011  
 McGraw, J. B., 2098  
 McLaren, B. E., 228  
 McNaughton, S. J., 974  
 McPeck, M. A., 617, 1319, 1355  
 Meagher, M., 1026  
 Medel, R., 912  
 Mercier, A., 1600  
 Meserve, P. L., 133  
 Milchunas, D. G., 974  
 Miller, T. E., 978, 1319, 1329  
 Milne, B. T., 805  
 Mohamad, H., 568  
 Moloney, K. A., 375  
 Monson, R. K., 1277  
 Moore, D., 2130  
 Moore, J. C., 694  
 Moran, M. D., 2219  
 Morris, A. K., 1390  
 Morris, D. W., 1756, 2352  
 Morris, W. F., 1451  
 Morton, R. D., 762  
 Morton, S. R., 746  
 Moss, R., 1512  
 Moyle, P. B., 1666  
 Murcia, C., 550  
 Murdoch, W. W., 2001

## N

Neuvonen, S., 2302  
 Newman, R. M., 2312

Niesenbaum, R. A., 2324  
 Nilsson, P., 1942  
 Nowak, R. S., 2130  
 Nuñez V., P., 561

## O

Oberbauer, S. F., 964  
 Olff, H., 736  
 Ollerton, J., 1043  
 Olson, M. H., 179  
 Oren, R., 968  
 Osterkamp, W. R., 2167  
 Oudemans, P. V., 990

## P

Pajarningsih, 1975  
 Pake, C. E., 1427  
 Palmer, T. M., 681  
 Parker, I. M., 1670  
 Parr, R., 1512  
 Pascual, M., 337, 1670  
 Pauker, S. J., 2563  
 Payette, S., 1226  
 Peckarsky, B. L., 1888  
 Pennings, S. C., 1410, 1948  
 Persson, L., 900  
 Peterson, C. C., 1831  
 Petren, K., 118  
 Pfister, C. A., 1928  
 Pick, F. R., 1556  
 Platt, W. J., 1234  
 Polak, M., 1379  
 Pongracic, S., 1750  
 Post, D. M., 725  
 Poulson, T. L., 1234  
 Powell, R. A., 2075  
 Power, A. G., 1004  
 Price, M. V., 1043, 1463  
 Pridmore, R. D., 2472  
 Proulx, M., 1556  
 Pugnaire, F. I., 1420  
 Puigdefábregas, J., 1420  
 Puustinen, S., 1290

## Q

Quang, P. X., 1297  
 Quinn, T. P., 1151

## R

Raikes, J. A., 364  
 Real, L. A., 989, 1011  
 Reed, D. C., 300  
 Reich, P. B., 581, 841  
 Reid, J. R., 746  
 Reilly, C. K., 2558  
 Rejmánek, M., 1655  
 Renaud, F., 2203  
 Repasky, R. R., 452, 1880  
 Richardson, D. M., 1655, 2043  
 Riemann, B., 2108  
 Robertson, D. R., 885  
 Robinson, B. W., 170  
 Robinson, S. K., 3  
 Rogovin, K. A., 746  
 Rooney, T. P., 2219  
 Root, R. B., 1074  
 Rosenheim, J., 2410  
 Rossi, A. M., 2212  
 Rothhaupt, K. O., 706, 716

Rouse, G. L., 2421  
 Rousset, F., 2203  
 Roy, B. A., 2445  
 Royall, P. D., 2148  
 Royama, T., 87  
 Ruohomäki, K., 2302  
 Ruxton, G. D., 317

## S

Sabater, F., 854  
 Sæther, B., 1493  
 Salonen, V., 1290  
 Sartanto, 1975  
 Sauer, J. R., 28, 1633  
 Saunders, S. C., 1254  
 Schimmel, J. P., 2142  
 Schimmel, J., 1436  
 Schindler, D. E., 725  
 Schlesinger, W. H., 364, 2130  
 Schluter, D., 452  
 Schmelz, E. A., 236  
 Schmitt, R. J., 408  
 Schrot, A. K., 617  
 Schumaker, N. H., 1210  
 Seaman, D. E., 2075  
 Seastedt, T. R., 2563  
 Sebens, K. P., 933  
 Sepkoski, J. J., Jr., 1367  
 Settle, W. H., 1975  
 Setzer, W. N., 1271  
 Shaver, G. R., 822  
 Shea, G. O., 170  
 Shenbrot, G., 746  
 Sherry, T. W., 36  
 Shine, R., 149, 1808  
 Silva, A., 912  
 Simberloff, D., 1965  
 Singer, D. K., 1765  
 Slagsvold, T., 461  
 Smith, H. R., 2332  
 Solow, A. R., 1294  
 Sonerud, G. A., 2365  
 Souza, V., 2119  
 Sparks, G. B., 2421  
 Spoerke, J. M., 247  
 Stamp, N. E., 247, 535, 1088  
 Steen, H., 2365

Steltzer, H., 2421  
 Stiling, P. D., 1965, 2212  
 Strong, D. R., 663  
 Sultan, S. E., 1791  
 Suomela, J., 2302  
 Sutherland, G. D., 1254  
 Syrjala, S. E., 75

## T

Talley, S. M., 1271  
 Tanner, J. E., 108  
 Tapper, P., 2567  
 Taylor, D. R., 289  
 Terborgh, J., 561, 968  
 Thébaud, C., 791  
 Thingstad, T. F., 2108  
 Thomas, F., 2203  
 Thomas, L., 49  
 Thomson, B. A., 1698  
 Thomson, J. D., 1698  
 Thrall, P. H., 990  
 Thrush, S. F., 2472  
 Tilman, G., 350  
 Travis, J., 1329  
 Tuomi, J., 1942  
 Turchin, P. B., 2086  
 Turner, C. L., 1738  
 Turner, G. F., 1286  
 Turner, P. E., 2119  
 Twilley, R. R., 2431  
 Twolan-Strutt, L., 259  
 Twombly, S., 1855  
 Tyler, C. M., 2182

## V

van de Koppel, J., 736  
 van den Driessche, P., 2027  
 van der Wal, R., 736  
 Vásquez, R. A., 2343  
 Vavrek, M. C., 2098  
 Vehrencamp, S. L., 2237  
 Venable, D. L., 1061, 1427  
 Verhoef, H. A., 685  
 Viallefont, A., 1143  
 Villard, M., 1, 59  
 Vitt, D. H., 271  
 Voichick, N., 725

von Kleist, K., III, 964

## W

Wagner, J. D., 639  
 Wahlström, E., 900  
 Wainwright, P. C., 1336  
 Walsberg, G. E., 2228  
 Walters, C. J., 1125  
 Walters, M. B., 841  
 Warner, R. R., 2488  
 Waser, N. M., 1043, 1463  
 Watkins, G., 1473  
 Watson, A., 1512  
 Weiblen, G., 1698  
 Werner, E. E., 157  
 Whelan, K. R. T., 964  
 White, G. C., 2549  
 Whitehead, S. C., 1303  
 Whitford, W. G., 1728  
 Whittlatch, R. B., 2472  
 Wiedenfeld, D. A., 13  
 Wiegert, R. G., 276  
 Wiklund, C. G., 1920  
 Wilcox, D. A., 1765  
 Wilkens, R. T., 247  
 Wilkinson, M. R., 2472  
 Williams, D. D., 395  
 Williams, N. M., 1043  
 Williamson, M., 1661  
 Wilson, D. S., 170  
 Winkler, D. W., 922  
 Wise, D. H., 639  
 Wissinger, S. A., 2421  
 Witmer, M. C., 1947  
 Wolf, B. O., 2228  
 Woolfenden, G. E., 2373

## Y

Yang, H. S., 2098  
 Yang, Y., 1088  
 Yap, S. K., 568  
 Young, B. E., 472  
 Yunger, J. A., 133

## Z

Zimmermann, R., 968  
 Zuk, M., 1037

## KEY WORD INDEX

## A

*Abies balsamea*, 228  
 abortion, fruit, 2324  
 aboveground production, 974  
 abruptness parameter, 2014  
 abundance and distribution of forbs, 1738  
*Acanthodactylus erythrurus*, 1163  
 accessible edge, 805  
*Acer saccharum*, 841, 1234  
 acidosis, 1103  
 acorns, 2332  
 activity times, 1818  
 actuarial senescence, 2373  
 adaptation to environmental change, 1151  
 adaptive syndromes, 1888  
 adult dispersal, breeding birds, 1920  
 adult emergence of stream invertebrates vs. temperature, 395  
 adult mortality, Greater Flamingo, 1143  
 adult predation, Pied Flycatcher, 461  
 Advanced Very High Resolution Radiometer (AVHRR), 1210  
 advection, 1680  
 adventitious root climber, 1271  
 aerenchyma, 1189  
 aerial survey, 1297  
 age structure, 1512  
 age-dependent mortality, 2373  
 age-specific breeding probabilities, 1143  
 agricultural ecology, 1963  
 agroecosystems, tropical rice, 1975  
*Agrostis capillaris*, 1290  
 Akaike's Information Criteria, 2549  
 Alberta, 2352  
*Alces alces*, 228, 1493  
 algae, 300, 1948, 2269  
 algal biomass, 1556  
 alien plants, 2043  
 Allee effect, 2027  
 allelochemicals, 247, 1088, 1271  
 allogenic succession, 1234  
 alpine tundra, 1277, 2563  
 Amazon, 561  
*Ambystoma tigrinum*, 1483  
 American shad, 1151  
 amino acids, arctic tundra, 2142  
 ammonium retention, Mediterranean streams, 854  
 amphibian status, 2091  
 amphipods, 2287, 2312  
*Ampithoe*, 1531  
*Anabaena flos-aquae*, 1174  
 anadromous fish, 1151  
 analysis methods, comparison of, 49  
 anatoxin-a, 1174  
*Anax*, 157  
 Andean streams, 1845  
 andesite, altered, 2130  
*Anemone patens*, 2445  
 animal body size, 81  
 animal densities vs. temperature, 395  
 animal movement, 2086  
 annual grassland, 2505  
 annual indexes of abundance, 49  
 annual plants, 791  
*Anolis*, 1344  
 antelopes, 2237  
 anther-smut, 990  
 antipredator behavior, 1116

*Antistrophus*, 521  
 ant lion, 630  
 ant mounds, 2516  
 ants, 630, 1906, 2393  
 anuran larvae, 157  
*Apeltes quadracus*, 1586  
 Aphididae, 1398  
*Aphytis*, 2410  
 apparent competition, 510, 610, 2352  
 apparent mutualism, 610  
 applied ecology, 677  
 aquatic ecology, 1686  
*Aquilegia caerulea*, 2458  
*Arabis holboellii*, 2445  
*Arbacia*, 1531, 2269  
 architectural constraints, 2458  
 arctic, 822, 2142  
 area source dispersal curve, 595  
 arid zones, 1420  
 Arizona, 1061  
*Artemisia tridentata*, 364, 2130  
 arthropod assemblages, 2219  
 arthropod predation, 1544  
*Asclepias*, 1061  
 ash trees, causes of mast fruiting in, 2567  
 Asia, 568  
 Asian deserts, 746  
*Asphondylia borrichiae*, 2212  
*Asplanchna girodi*, 1174  
*Asynarchus nigriculus*, 2421  
*Auriparus flaviceps*, 2228  
 Australia, 149  
 Australian deserts, 746  
 Australian plants, 1661  
 autocorrelation, 1011  
 autogenic succession, 1234  
 avian predation, 1544  
 avoidance behavior, 1573  
*Aythya valisineria*, 435

## B

bacteria, 2119  
 bacterial ingestion, 706  
 baetids, 1573  
*Baetis tricaudatus*, 1573  
 balsam fir, 228  
 bark texture, 1271  
 basking behavior, 1163, 1818  
 Bayes empirical methods, 2528  
 Bayesian analysis, 725  
 Bayesian estimation, 337, 1633  
 beak morphology, 500  
 beech, 1234  
 bees, 1043, 1451, 2445  
 behavior-modification hypothesis, 1390  
 behavioral constraints of pollinators, 1043  
 behavioral indirect effects, 157  
 behavioral plasticity, 1151  
 behavioral responses, 2219  
 behavioral thermoregulation, 1818  
 Belize, 2431  
 benthic feeding, 1286  
 benthic populations, recruitment and monitoring of, 2256  
 Bering Sea, 215  
*Betula alleghaniensis*, 841  
*Betula papyrifera*, 841  
*Betula pubescens* ssp. *tortuosa*, 2302  
 biocontrol agents, 1965, 1989

biocontrol insects, 1661  
 biocontrol, risks of cf. benefits of, 1963  
 biodiversity, 350, 685, 762  
 biogeographic processes, 1355  
 biological control, 690, 1963, 1965, 1975, 1989  
 biological control of insect pests, 2001  
 biological invasions, 2027, 2043  
 biomanipulation, 725, 1556  
 biomass allocation, 521  
 biomechanics, 435  
 biotic vs. abiotic factors, 1666  
 bipedal locomotion, 2343  
 bird behavior, 1880  
 bird predation, 1390  
 bison, 1026  
*Bistorta bistortoides*, 1277  
 bluebells, 1451  
 body size, 81, 2343  
 body temperatures, 1818  
*Bombus* spp., 1451  
 bootstrap analysis, 2332  
 bootstrap test of significance, 81  
 boreal forest, 1436  
 boreal peat, 271  
 bottle experiments, 663  
*Bouteloua eriopoda*, 364  
*Brachionus calyciflorus*, 1174  
*Brassica rapa*, 978  
 breeding areas, fidelity of birds to, 1920  
 Breeding Bird Survey, 1633  
 breeding distribution, 1181  
 breeding, early, 489  
 breeding performance, 1920  
 breeding, timing of, 1501  
 British crop plants, 1661  
 bromeliads, 964  
*Bromus tectorum*, 364  
 brood manipulation, 472  
 Brown-headed Cowbirds, 2528  
 browsing, simulated, 228  
*Brucella*, 1026  
 bumble bees, 1451  
 burn depth, 1436  
 burning, chaparral, 2182  
 burning regime, 1738

## C

cacti hosts, 912  
 caddisflies, 2312, 2421  
 calcium carbonate, 1948  
 California, 452, 1880, 2410  
 California fish invasions, 1666  
 California medfly outbreaks, 1690  
 California streams and estuaries, 1666  
 cannibalism, 639, 2421  
 canonical cost, 1303  
 canopy cover, 228  
 canopy gaps, developmental and edaphic, 1254  
 canopy transpiration, 968  
 Canvasback duck, 435  
 capture-recapture, 1143, 1196  
 carbon accumulation, peat, 271  
 carbon allocation, total root, 1750  
 carbon budget, 1750  
 carbon metabolism, 706  
 carbon : nitrogen ratio, 300  
 carbon nutrient balance hypothesis, 2302  
 carbon, stable isotope composition, 1286  
 carbon storage in tundra soils, 2563  
*Carcinus maenas*, 1680, 1989

*Cardamine pensylvanica*, 289  
 Caribbean, 885  
 cascade model, 1294  
 cascading trophic interactions, 725  
*Castilleja wightii*, 1398  
*Catostomus commersoni*, 1586  
 cattails, 1189  
 cattle, 1026  
 censored data, 2538  
 Central Plains Experimental Range, Colorado, 2516  
 central-place foraging, 2343  
 Centrarchidae, 1336  
*Ceratitis capitata*, 1690  
 chaparral, 2182  
 character displacement, 510, 550, 1319, 1321  
 charcoal analysis, 2148  
 cheating behavior, 1451  
 chemical communication, 1600  
 chemical defenses, 1531, 1948, 1950, 2269, 2287, 2312  
 Chesapeake Bay, 1653  
 chick growth, 1501  
 Chihuahuan Desert, 364, 1544  
 Chile, 133  
 Chilean matorral, 2343  
 Chironomidae, 1975  
*Chironomus tentans*, 1116  
 chlorogenic acid, 247, 1088  
 chlorophyll, 706, 725  
 Chlorophyta, 1556  
 chrysophyte, 706, 716  
 Chukchi Sea, 215  
 cichlids, 1286  
 clearcuts, 595  
*Clethrionomys*, 1756, 2352, 2365  
 climate change, 822, 1226, 1765, 2055, 2148  
 climatic variability, 350  
*Clinocottus* spp., 1928  
 clonal growth form, 1592  
 clonal organisms, 950  
 cloud forest, 550  
 clumped resources, 118  
 clutch size, 472  
 CO<sub>2</sub>, elevated, 2505  
 CO<sub>2</sub> flux, 1750  
 coevolution, 1321, 1367  
 coexistence, 610, 716, 762, 990, 1234, 1928, 2119, 2352  
 colonization, 2091  
 colonization cf. detection, 1690  
 colony size, effect on distribution of ant nests, 2393  
 Colorado, 2421  
 Colorado Front Range, 2563  
 Columbia River, 1151  
 comb size, Red Grouse, 1512  
 common-garden experiment, 2212  
 community assembly, 665, 762  
 community assembly dynamics, 663  
 community composition, 964  
 community dynamics, 108, 1410, 1975, 2091, 2256  
 community ecology, 561, 630, 663, 670, 1319, 1329, 1344  
 community evolution, 1344  
 community structure, 81, 746, 1344, 1556, 1845  
 comparative method, 1344  
 compartmentalization, 1329  
 compensatory growth, 1290, 1942  
 competition, 108, 118, 133, 157, 350, 510, 610, 791, 1189, 1286, 1319, 1321, 1410, 1928, 2119, 2130, 2182, 2324, 2352, 2445  
 competition between natural enemies, 2001  
 competition for pollination, 550  
 competition for space, 2393

competition-predation theory, 2108  
 competitive ability, 791  
 competitive index, 978  
 complex dynamics, plant population, 289  
 computer-intensive methods, 81  
 coniferyl benzoate, 1103  
 conservation, 1367  
 conservation corridor, 1617  
 constrained Bayes estimation, 1633  
 consumer-resource interactions, 408  
 controlled environment facilities, 665  
*Conyza canadensis*, 791  
*Conyza sumatrensis*, 791  
 copepod, 2382  
 coral reef fish, 885, 2488  
 coral reefs, 108, 950  
 coral reefs, Jamaican, 2256  
 corals, relative abundances of, 2256  
 correlated random walk, 2086  
 cost of reproduction, 1143  
 cost-benefit analysis, 1965  
 Costa Rica, 550  
 Cottidae, 1928  
 counts, statistical distribution, 2549  
 covariates, 1297  
 Cramér-von Mises test, 75  
 creosotebush, 1544  
 critical densities, ecotone structure, 805  
 cross-feeding, 2119  
 crucifer, 2312  
 crustacean growth, 1855  
 cryptogenic species, 1653  
*Cucumaria*, 1600  
*Cuscuta*, 1410  
 cyanobacteria, 1174, 1556  
 cyanobacterial toxins, 1174  
*Cynipidae*, 521  
 cypress swamp, 964

## D

damselfish, 885  
 damselflies, 617  
 Daphnia, 1556  
 Darwin's finches, 489, 500  
 deciduous plants, 1716  
 decomposition, 271, 685  
 deer mice, 2196  
 defoliation, 1290, 2324  
 delayed inducible resistance, 2302  
 demographic trade-off, 2119  
 demographic analyses, usefulness of, 2256  
 demography, 3, 950, 1196, 1473, 1512, 1698, 2373  
 demography of tropical corals and sponges, 2256  
*Dendroica caerulescens*, 36  
*Dendroica cerulea*, 59  
*Dendroica discolor*, 59  
 density dependence, 69, 610, 1493, 1573, 1592, 1928, 2014, 2332  
 density dependence, delayed, 289  
 density-dependent habitat selection, 1756  
 density-dependent mortality, 639  
 Derbyshire, UK, 776  
*Deschampsia flexuosa*, 1436  
 desert annual plants, 1427  
 desert herbivore, 1831  
 desertification, 364  
 desert shrubs, 1728  
 desert small mammals, 746  
 desert soils and vegetation, 364  
 desiccation and susceptibility to herbivores, 1531

detection function, 1297  
 detoxification, 1103  
 detritivores and plankton feeders, 1975  
 detritivory, 1845  
 detritus food webs, 694  
 developmental model, 1855  
 developmental plasticity, 1855  
 development, maternal manipulation, 1808  
 development rate, 1116  
 diapause timing, 2382  
 diapausing eggs, 2382  
*Diaptomus sanguineus*, 2382  
*Dictyota*, 1531, 2269, 2287  
 diel variation, 1818  
 dietary nitrogen, 1512  
 dietary overlap, 1286  
 diffusion and advection in marine invasions, 1680  
 digestion, 1103  
 dimorphism, lizards, 1473  
 discrete-time population model, 2014  
 discriminant analysis, 1655  
 disease ecology, 989, 990, 997, 1004, 1011, 1026, 1037, 1617  
 disease spread, 1011  
 disease transmission, 912  
 dispersal, 3, 36, 94, 375, 933, 1210, 1592, 1680, 1686, 1867, 2027, 2365  
 dispersal corridors, 94  
 disruptive selection, 170  
 distributions of populations, 75  
 disturbance, 108, 375, 776, 1410, 1436, 1592, 1845, 2043, 2472  
 disturbance rate, 375  
 disturbance size, 375  
 diversity, 1367  
 diversity-stability hypothesis, 350  
 diving, Canvasback ducks, 435  
 dormancy, 1427, 1942  
 dormant propagule pool, 2382  
*Doroneuria baumannii*, 1573  
 Doñana National Park, 69  
*Drosophila nigrospiracula*, 1379  
 drought, 350  
 dry-season survival, 500  
 dusky rat, 149

## E

Eagle Owl, 1134  
 eastern deciduous forest, 2148  
 eastern U.S. forests, 28  
 echinoderms, 1600  
*Echinopsis skottsbergii*, 912  
 Ecological Flora Database, 1661  
 ecological literature survey, 681  
 ecological redundancy, 1845  
 ecological scale, 133  
 ecomorphology, 1336  
 ecosystem dynamics, 725, 2431  
 ecosystem processes, 665, 685  
 ecosystem traits, 1728  
 ecotones, 805  
 Ecotron, 663, 665  
 ectoparasitism, 1379  
 edaphic mosaic, 1254  
*Efflatounaria*, 1592  
 egg bank, 2382  
 egg limitation, 2410  
 egg load, 2410  
*Eimeria arizonensis*, 2196  
 El Niño, 300, 500



elevational gradient, 1880  
 elk, 1026  
 emigration, 1196, 1573  
 empirical Bayes, 2528  
*Enallagma*, 617  
 endocrine-immune interactions, 1037  
 enemy-free space, 1698  
 energetics, 1103, 1181, 2228  
 environmental heterogeneity, 2098  
 environmental stochasticity, 207, 1493  
 environmental temperature, 395  
 epidemiology, 1011, 1026, 1617  
 epiphyte communities, 964  
 epiphyte mortality, 964  
 epiphyte recruitment, 964  
*Epirrita autumnata*, 2302  
*Epitheca cynosura*, 191  
*Erythronium grandiflorum*, 1698  
*Escherichia coli*, 2119  
*Esox lucius*, 900  
 establishment, population, 1690  
*Euhaplorchis californiensis*, 1390  
*Eulychnia acida*, 912  
 European Starling (*Sturnus vulgaris*), 1303  
 Everglades National Park, Florida, 964  
 evergreen plants, 1716  
 evolution, 1043, 1319, 1321, 2382  
 evolution and ecology, 2001  
 evolutionary morphology, 1336  
 Evolutionary State Strategy, 2014  
 evolutionary theories of habitat selection, 1756  
 exotic pest introduction, 1690  
 exotic species, 1651, 1680, 1963  
 experimental design, 1948, 1950  
 experimental units, 2558  
 exploitation competition, 118, 408, 1134  
 exploratory data analysis, 1698  
 extinction, 1617, 2091  
 extinction, cause of, 1965  
 extreme values, statistics, 1633

## F

facilitation, 716, 978, 1189, 1420, 2130, 2431, 2445  
 factor analysis, 964  
 factor-ceiling distribution, 1698  
 factorial simulation experiment, 2043  
 facultative life history shift, 1116  
*Fagus grandifolia*, 1234  
*Falco columbarius*, 1920  
 fecundity, 69, 950, 1116  
 feeding behavior, 1531  
 feeding biology, sunfishes, 1336  
 feeding deterrent, 2312  
 feeding efficiency, 500  
 feeding strategies, 1286  
 fenvalerate, 1074  
 fertility, 776, 1379  
 fertilization, effect on delayed inducible resistance, 2302  
*Ficedula hypoleuca*, 461  
 field energetics, 1831  
 field experiments, 395, 639, 776, 1134, 1390, 1427, 1544, 1975, 2130, 2558  
 Finland, 1134  
 fire, 1226, 2182  
 fire history, 2148  
 fire intensity, 1436  
 fish body size, 1586  
 fish vs. echinoid grazing, 2256  
 fish, habitat modification by, 1845  
 fitness, 170, 1791

fitness components, 2098  
 fitness consequences, 1134  
 flamingo, survival and breeding, 1143  
 flight characteristics, 1181  
 floral color change, 1451  
 floral mimicry, 2445  
 floral variation, 2458  
 Florida, 1965, 2212  
 Florida Scrub Jay, 2373  
 flower mixtures, pollen loss, 550  
 flower shape and size, 1463  
 fluctuating selection, 2382  
 fly pollination, 2445  
 food dispersion, 435  
 food, habitat partitioning, 452  
 food limitation, 408, 472  
 food partitioning, 1286  
 food resource use, 900  
 food webs, 663, 1294, 1321  
 foraging, 149, 426, 630, 1103, 1181, 1303, 2393  
 foraging behavior, 408  
 foraging efficiency, 736  
 foraging energetics, 435  
 foraging mode, 1163  
 foraging models, currency, 1303  
 foraging success, 452  
 foraging theory, 1043  
 forb ecophysiology, 1738  
 forb morphological responses, 1738  
 forb topographic position, 1738  
 FORCLIM, 2055  
 forest dynamics, 2148  
 forest ecology, 2055  
 forest fragmentation, 28  
 forest gap models, 2055  
 forest limit, 1226  
 forest succession, 841  
 forest understory, 228  
 forest, old-growth, 1234  
 founding population, 1686  
 fractal dimension, 2086  
 fragmentation, 3, 805, 1210  
*Fraxinus excelsior*, 2567  
 frequency-dependent selection, 2119  
 freshwater macrophyte, 2312  
 fruit abortion, 2324  
 fruit and seed set, 2458  
 fruit fly, 1379  
 fruits, bird-dispersed, 1947  
 functional groups, 2505  
 functional morphology, 1319, 1336  
 functional response, 610, 706, 736, 1125, 1573, 2237  
*Fundulus*, 1390  
*Fundulus diaphanus*, 1586  
 fungi, 690, 997  
 future fecundity, 472  
 fynbos, 2043

## G

gall abortion rates, 2212  
 gall abundance, 2212  
 gall insect, 521  
 gametogenesis, 1600  
 gape limitation, 900  
 gaps, 776, 1234, 1254, 2055  
 gas exchange, 2130  
*Gasterosteus aculeatus*, 1586  
 Gause, 337  
*Gazella thomsoni*, 2237  
 geckos, 118

geese, 736  
 generalist feeder, 1088  
 generalists, 170, 535  
 generalization in pollination systems, 1043  
 genetic variation, 997, 2098  
 genetically engineered organisms, 1661  
 genetically modified plants, 1670  
 genets, 1592  
 genotype by environment interactions, 2212  
 geographic distributions, 75  
 geographic information system, 215, 1210  
 geographic patterns, 2269  
*Geospiza*, 500  
*Geospiza fortis*, 489  
*Geospiza scandens*, 489  
 geostatistics, 59, 364  
 germination, 300, 1947  
 global environmental change, 665  
 global warming, 395  
 glucosinolate, 2312  
 Gobi Desert, 746  
 goldenrods, 1074  
*Gopherus agassizii*, 1831  
 gradient percolation, 805  
 graminoid systems vs. forest species, 2563  
 grasses, 997  
 grasslands, 350, 805, 974  
 grazing, 725  
 grazing ecosystem, 974  
 Great Barrier Reef, 108  
 Great Basin Desert, 364, 2130  
 Greater Flamingo, 1143  
 green crab, 1680, 1989  
 green revolution, 1975  
 growth forms, 276  
 growth rate, 841, 870, 900, 1116  
 growth vs. defense, 247  
 growth vs. storage, 1277  
 growth-differentiation balance hypothesis, 247  
 gypsy moth, 201

## H

habitat availability, 215  
 habitat classification across landscapes, 1756  
 habitat complexity, 639  
 habitat connectivity, 1210  
 habitat destruction, 1196  
 habitat distribution, 1880  
 habitat fragmentation, 59, 94, 1196  
 habitat heterogeneity, 69  
 habitat identification within landscapes, 1756  
 habitat modification, 1845  
 habitat partitioning, 452  
 habitat selection, 215, 900, 1134, 2352  
 habitat-specific demography, 36  
 habitat stability, 2472  
 haemolymph depletion, 1379  
*Halictina implexiformis*, 2431  
 halictid bees, 2445  
 hares, herbivory, 736  
 hatchling performance, lizards, 1808  
 Hawaiian birds, 1661  
 headwater streams, 395  
 heat exchange rates, 1163  
*Helicoverpa zea*, 1088  
*Hemidactylus frenatus*, 118  
 herbivore load, 2219  
 herbivore pressure, 1074  
 herbivores, 974, 2237, 2312  
 herbivorous insect populations, 1544

herbivory, 228, 521, 736, 974, 1074, 1103, 1398, 1948, 2182, 2212, 2312, 2324  
 hermaphroditism, 950  
 hermaphroditic plants, 1451  
 heterogeneity, demographic, 2373  
 heterostyly, 550  
 heterotrophic flagellates, 716  
 history and community structure, 1344  
 Holocene, 271, 1226  
 home range, 149  
 horizontal transmission, 201  
 host feeding, 2410  
 host mortality, 2203  
 host-parasite interactions, 2196  
 host plant, 1290  
 host preference, 1271  
 host quality, 2410  
 host specificity, 1271, 1906, 1965, 1989  
 host survival, 2196  
 Hudson Bay, Ontario, 1756  
 hull edge, 805  
 human impact, 118  
 hummingbirds, 550, 1463  
 hurricane effects, 964  
 hybrids, 500  
 hydrologic regime, effects on fish, 1666  
 hydrological change, 1765  
 hydroperiod, 2421  
 Hymenoptera, 1061  
 hypothesis test, 75

## I

Iguania, 1473  
 Illinois, 3  
 immigration, 1867  
 immunological "memory," 236  
 imported species, 1965  
 incubation, 1808  
 incumbency, 1367  
 indeterminate growth, 950  
 Indiana, 1765  
 indirect behavioral effects, 900  
 indirect effects, 610, 1319, 1329, 1398  
 indirect effects of introduction, 1965  
 individual-based models, 94, 2043  
 individual variation, 1483, 1831  
 induced defenses, 236, 1888, 2287  
 infectious disease, 989  
 insect herbivores, 247, 2212  
 insect nutritional ecology, 1088  
 insect outbreaks, 2332  
 insect-plant interactions, 1906  
 insect predation, 118  
 insect removal experiments, 1074  
 insect vector, 1004  
 insecticide use and pest outbreaks, 1975  
 insecticides, 1074  
 insects, abundance, 1906  
 insects, stage-structured models of, 2001  
 integrated pest management, 1975  
 integrodifference equations, 2027  
 interacting particle systems, modeling, 1675  
 interaction strength, 694  
 interaction-web connectance, 1043  
 interference, 408, 1189, 2130  
 interference competition, 1134  
 intermediate diets, 500  
 interspecific competition, 118, 337, 408, 885  
 interspecific pollen transfer, 550  
 intraguild interactions, 2219



intraguild predation, 2421  
 intraspecific competition, 36, 118, 408, 900, 1134  
 intraspecific variation, 170, 2287  
 introduced predator, 1680  
 introduced species, 1651, 1653, 1666, 1989  
 introduced species, rate of spread, 1680  
 introduced, established, and pest species, 1661  
 introduced vs. native species, 2505  
 invaders, attributes of, 1655  
 invasibility, 776  
 invasion and establishment, 1661  
 invasion ecology, 118, 776, 791, 1651, 1653, 1655, 1661, 1666, 1670, 1680, 1686, 1690, 2027, 2043  
 invasion, models, 1675  
 invasion resistance, 762, 1666  
 invasive plant species, 1655  
 invasive species, screening, 1655  
 invasiveness, 1963  
 invasiveness of genetically engineered organisms, 1670  
 invertebrate herbivory, 791  
*Ipomopsis*, 1463  
 iridoid glycoside, 535  
 island mammals, 1661  
 island of fertility, 1420  
 Isle Royale, Michigan, 228  
 isodar analysis, 1756, 2352  
 isolog, 2352

## J

jasmonic acid, 236  
 Jasper Ridge, California, 2505  
 Java, Indonesia, 1975  
*Juniperus monosperma*, 805  
*Junonia coenia*, 535  
 juvenile period, 1655

## K

kelp, 300  
 kernel density estimation, 81, 2075  
 key factor analysis, 87  
 killifish, 1390  
 kin selection, 1512  
 kinetic characterization, soil organic matter, 2516  
 Konza prairie, 521  
 krummholz movement, 2563

## L

labeled water, 1181  
 laboratory experiments, 639, 716  
 lacertids, 1163, 1818  
*Lagodon*, 1531  
*Lagopus*, 1512  
 lake enclosures, 1556  
 Lake Malawi, Africa, 1286  
 Lake Michigan, 1765  
 lakes, 725, 900  
 land-use impacts, 28  
 landscape, 375, 1756  
 landscape ecology, 28, 94, 1210  
 landscape heterogeneity, 94  
 landscape structure, 28  
 largemouth bass, 179  
*Larrea tridentata*, 364, 1544  
 larvae, marine invertebrate, 933  
 larval availability, 2488  
 larval performance, 2302  
 laxatives, bird-dispersed fruits, 1947  
 leaf life span, 276  
 leaf litter, 1728

leaf production, 1906  
 leafing-time effects, 2567  
 Leips-Travis dynamic allocation model, 1855  
*Lepidodactylus lugubris*, 118  
 Lepidoptera, 1061  
*Lepomis gibbosus*, 170, 1116  
*Lepomis macrochirus*, 179  
 liana, 1271  
 life history, 375, 395, 791, 950, 1116, 2373  
 life history traits, 1427  
 life history variation, 1493, 1855  
 life table analysis, 87  
 life table response experiments, 870  
 light, 581, 822  
 light penetration, 259  
 limestone grassland, 776  
*Limnephilus externus*, 2421  
*Lindera benzoin*, 2324  
 line transect survey, 1297  
 litterfall, 1750  
 lizards, 1473, 1808  
 local climate, 207  
 local vs. regional scale, 2091  
 locomotion, 2343  
 log ratios, 2538  
 loglinear model, 1297  
 Long-Term Ecological Research (LTER) Site, 1544  
 long-term rate of energy intake, 1303  
 lotic macroinvertebrates, 395  
 Lotka-Volterra dynamics, 762  
 Lotka-Volterra model, 337, 1670  
 luxury uptake, 1277  
*Lycopersicon esculentum*, 247  
*Lymantria dispar*, 2332  
*Lythrum salicaria*, 1779

## M

macrobenthic community, 2472  
*Macrocheles subbadius*, 1379  
 macrocosms, 685  
*Macrocystis pyrifera*, 300  
 macroevolution, 1319  
 male age in breeding Merlins, 1920  
 male function, 2458  
 mammals, small, 133, 746, 1756, 2365  
*Manduca sexta*, 1088  
 mangroves, 2431  
 manipulative studies, 2558  
 mantids, 2219  
 manual defoliation, 2302  
 marine chemical ecology, 1950  
 marine communities, 1367  
 marine ecosystem, 426, 1950, 2287  
 marine gastropods, 408  
 marine invertebrates, 1680  
 marine pests, biological control of, 1989  
 mark-resight, 880  
*Marrubium*, 1420  
 mass action, virus transmission, 201  
 mast fruiting, patterns of, 2567  
 maternal effects, 1791  
 mathematical model, 1321  
 matrix models, 108, 1928  
 matrix population models, 870  
 maximum likelihood estimation, 337  
 mayflies, 1888  
 medfly, 1690  
 Mediterranean old fields, 791  
 Mediterranean streams, 854  
 Mediterranean, western, 1163

meristems, 521, 1942  
 Merlin, 1920  
 mesocosms, 663, 665  
*Mesocyclops edax*, 1855  
 metabolic load, 1103  
 metacercariae, 1390  
 metamorphosis, 1483, 1855  
 metapopulation, 3, 94, 1617, 1867, 2091  
 methyl jasmonate, 236  
*Metrioptera bicolor*, 207  
 Michigan, 157, 179  
 microbial food webs, 2108  
*Microbotryum violaceum*, 1011  
 microclimate, 2228  
 microcosm experiments, 681  
 microcosms, 663, 670, 677, 685, 690, 694  
 microhabitat, 2488  
*Microlophus*, 1473  
 micrometeorological dispersal model, 595  
*Micropterus salmoides*, 179  
 microsite selection, 1818, 2228  
*Microtus oeconomus*, 1196  
 migratory timing, 1151  
*Mimus thenca*, 912  
 mineral defense, 1948  
 mistletoes, 912  
 mites, 1379  
 mixed forest, 228  
 mixotrophic flagellate, 706, 716  
 mixotrophy, 2108  
 model comparisons, 2055  
 model simplification, 2055  
 models, invasion spread, 1651, 1690  
 modular modeling, 2055  
 Mojave Desert, 364  
*Molothrus ater*, 2528  
 molt, mortality of flycatchers, 461  
 Montana, 1189  
 Monte Carlo simulation, 49, 880  
 moose, 228, 1493  
 morphology, 1463  
 mortality, 2373  
 multi-species shoaling, 1586  
 multilocus genetics, 510  
 multiple selective agents, 1355  
 multiple stable states, 736  
 Multispectral Scanner (MSS), 1210  
 mutualism, 535, 610, 1043, 1061, 1420, 2431  
 mutualisms, 2431  
*Myadestes melanops*, 1947

## N

*Nasturtium officinale*, 2312  
 National Biological Survey, 13  
 native predators, 1963  
 natural disturbance, 1254  
 natural enemies, 1989  
 natural selection, 1329, 1355, 1463  
 natural vs. altered systems, 1666  
 nearshore cichlids, 1286  
 nectar feeding, 489  
 nectar robbery, 1451  
 negative binomial distribution, 2549  
 Negev Desert, 746  
 nematode, 690  
 neoclassical biological control, 1965  
 neotropical migratory birds, 1, 3, 13, 28, 36, 49, 59, 2528  
 neotropics, 36, 1845  
 nest predation, 472, 1920  
 nest-site movement, 1920

new-association hypothesis, 1965  
 New York State, western, 2148  
 New Zealand, 2472  
 niche theory, 2055  
*Nicotiana sylvestris*, 236  
 nicotine, 236  
 nitrogen, 271, 535, 581, 841, 1189, 1398, 1716, 2302  
 nitrogen and light availability, 1738  
 nitrogen availability, 1277  
 nitrogen costs and benefits, 1277  
 nitrogen cycling, 364, 2142, 2505  
 nitrogen fertilization, 276, 1277  
 nitrogen fixation, 1716  
 nitrogen immobilization, uptake, and partitioning, 2505  
 nitrogen in desert shrubs, 1728  
 nitrogen isotope ( $^{15}\text{N}$ ), 236, 2505  
 nitrogen, stable isotope composition, 1286  
 nitrogen uptake, 2142  
 Niwot Ridge (Colorado, USA), 2563  
 nondestructive method, 276  
 nonequilibrium hypothesis, 561  
 nonindigenous species, 1651, 1690  
 nonlethal effects, 1116  
 nonlinear regression, 13  
 nonlinear selection, 870  
 nonparametric statistical methods, 75, 2075  
 nonreproductive years, 2567  
 norm of reaction, 1791  
 North American Breeding Bird Survey, 13, 49, 59  
 North American deserts, 746  
 Northern Fulmar, 1181  
 northern wetlands, 1756  
 Northwest Territories, Canada, 1501  
 Norway, 1493  
*Notemigonus crysoleucas*, 1586  
 nuclear polyhedrosis virus, 201  
 numerical effects, 900  
 numerical response, 610, 706  
 nutrient concentration, 1947  
 nutrient cycling, 1716, 1728  
 nutrient enrichment vs. herbivory, 2256  
 nutrient mobilization, 685  
 nutrient release, 706  
 nutrient retention, 854  
 nutrient uptake, 706, 1277  
 nutrients, 822, 978, 1556  
 nutritional stress, 1379

## O

observation error, 337, 880  
*Ochromonas*, 706, 716  
 Odonata, 191, 617  
 odonate predator, 157  
 offspring quality, 472, 1791  
 old fields, 1074, 2219  
 old-growth forest, 1210  
*Oligocottus* spp., 1928  
 operative temperatures, 1818  
 optimal defense hypothesis, 247  
 optimal foraging theory, 1303  
*Opuntia echios*, 489  
 orchids, 964  
 organismal design, 1336  
*Ostrya virginiana*, 841  
 outbreak patterns, 1690  
 overcompensation, 1942  
 overdispersion, 1294  
 oviposition, 2410  
 oxygen, 1189

## P

- paleobiology, 1367  
 paleoecology, 1226, 1367, 1765  
 paleontology, 1319  
 palsa peatland, 1226  
 Papua New Guinea, 1906  
 paradox of enrichment, 1125  
*Paramecium*, 337  
 parameter estimation, 337  
 parasite-host interactions, 1004  
 parasites, 521, 912, 989, 1379, 1390, 1398, 1410, 1512, 1586, 2203, 2528  
 parasites, effects on host behavior, 1390  
 parasitic castrator, 1989  
 parasitic plant, 1398, 1410  
 parasitism rates, 2212  
 parasitoid, 2410  
 parasitoid aggregation and stability, 2001  
 parasitoid behavior, effects on biocontrol, 2001  
 parasitoid community, 2212  
 parasitoid-host systems, models, 2001  
 parental investment, 1791  
 patch cohesion, 1210  
 patch colonization, 94  
 patch dynamics, 1410  
 patch size, 2472  
 patch use, 408, 2343  
 path analysis, 1698  
 pathogens, 989, 1026  
 pattern index, 1210  
 Patuxent Wildlife Research Center, Maryland, 639  
 peat, 271  
*Perca fluviatilis*, 900  
 perch, 900  
 percolation, 805  
 periodicity, 1888  
 permanence, ecological communities, 762  
*Peromyscus*, 2352  
*Peromyscus leucopus*, 2332  
*Peromyscus maniculatus*, 2196  
 persistence, predator-prey interaction, 1867  
 Perú, 561  
 pest management, 1963  
 pesticide use, reduced, 1963  
 phagotrophic nutrition, 706  
 phagotrophy, 2108  
 Phanerozoic, 1367  
 phenolics, 2302  
 phenologic priority, 2421  
 phenology, 822  
 phenotype matching, 1586  
 phenotypic correlation, 1463  
 phenotypic plasticity, 1791, 1808  
 phenotypic variation, 247  
 pheromones, 1600  
*Phoenicopterus ruber roseus*, 1143  
 phosphate, 854  
 phosphorus, 725, 1716  
 photoautotrophy, 2108  
 photoperiod, diapause timing, 2382  
 photosynthesis, 581, 822, 841, 1738  
 phototrophic nutrition, 706  
 phylogenetic reconstruction, 617  
 phylogeny, 1344  
 physiological stress, 461  
 phytophagous insects, 1074  
 phytoplankton, 716  
*Picea mariana*, 1226  
 Pied Flycatcher, 461  
 pike, 900  
 pinniped, 426  
*Pinus*, 1655, 2043  
*Pinus edulis*, 805  
*Pinus monophylla*, 2130  
*Pinus ponderosa*, 2130  
 piscivory, 179, 900  
 planktivorous fish, 1556  
 plant-animal interactions, 1043, 2431  
 plant competition, 978  
 plant genotype, 2212  
 plant-herbivore interactions, 1531, 1950, 2269, 2287  
 plant-herbivore model, 736  
 plant-insect interactions, 1074, 1398  
 plant interactions, 2130  
 plant life history, 2043  
 plant macrofossils, 1765  
 plant-microbe N interactions, 2505  
 plant pathogens, 990, 997, 1004, 1011  
 plant-pollinator interaction, 1779  
 plant-pollinator mutualism, 1451  
 plant removal, 2516  
 plant secondary metabolite, 1103  
 plant virus, 1004  
*Plantago lanceolata*, 535  
 plants, 997  
 Pleistocene, 1367  
*Podarcis hispanica*, 1818  
*Podisus maculiventris*, 535  
 poison ivy, 1271  
 Poisson distribution, 2549  
 polar bears, 215  
*Polistes fuscatus*, 535  
 pollen analysis, 2148  
 pollen carry-over, 550  
 pollen digestion, 489  
 pollen export and production, 1463  
 pollen feeding, 489  
 pollen limitation, 2458  
 pollen placement, 550  
 pollen removal, 1451  
 pollen scraping hypothesis, 550  
 pollination, 2324  
 pollination effectiveness, 1061  
 pollination syndromes, 1043  
 pollinator effectiveness, 1463  
 pollinator limitation, 1779  
*Polygonum*, 1791  
 polymorphism, 2119  
 population, age-/size-structured, 2393  
 population biology, 989  
 population change, monitoring, 49  
 population cycles, 1512  
 population differences, 1831  
 population differentiation, 1355  
 population dynamics, 3, 69, 87, 375, 510, 1026, 2001, 2091, 2365  
 population ecology, 990  
 population estimate, 880  
 population genetics, 990  
 population growth, 1680  
 population growth rate, 2014  
 population limitation, 885  
 population model, 472, 2014  
 population regulation, 191, 289, 639, 690, 1379, 1493, 1512, 1756  
 population size, 1779  
 population structure, 1483  
 population synchrony, 191  
 population trends, 13, 49  
 population variability, 207

Porifera, 2431  
 potential resorption, 1716  
 prairie, 350  
 predation, 610, 617, 630, 1321, 1573, 2421  
 predation risk, 157, 1134, 1390, 1880, 2343  
 predator avoidance, 617, 1888  
 predator exclusion, 639  
 predator load, 2219  
 predator-prey dynamics, 149  
 predator-prey interactions, 694, 1867  
 predator-prey theory, 736, 1125  
 predator-removal experiments, 1544  
 predators, 426, 535  
 predators, bitrophic generalist, 2219  
 predators, shared, 2352  
 predators, vulnerability to, 179  
 predictive germination, 1427  
 predispersal, 2567  
 preference, assessment, 2538  
 prey vulnerability, 1888  
 primary production, 276  
 primary productivity, 350, 736  
 primary succession, 561  
 procellariiform, 1181  
 process error, 337  
 productivity, 69, 259, 822  
 propagule pressure, 1661  
 proportions, empirical Bayes estimation, 2528  
 protandry, 2458  
 Protista, 1867  
*Psammodromus algirus*, 1163  
*Pseudomonas syringae*, 1670  
 pseudoreplication, 2558  
*Pterygophora californica*, 300  
 puberty, 950  
*Puccinia monoica*, 2445  
*Pulsatilla patens*, 2445  
 Pyrrhophyta, 1556

## Q

*Quadraspidiotus perniciosus*, 2410  
 quadrupedal locomotion, 2343  
 quaking aspen, 1103  
 quantitative analysis of movement, 2086  
 quantitative genetics, 510  
 quarantine, 1617  
*Quercus*, 2332  
*Quercus rubra*, 841

## R

rabbits, 736  
 radiotelemetry, 215, 2075  
 rain forest trees, 581  
 rainfall regime, 1831  
 ramet life span, 276  
 ramet population dynamics, 276  
 ramets, corals, 1592  
*Rana*, 157  
 randomization test, 75, 1061  
 range expansion, 1651, 1686  
 rarefaction, 630  
 rate maximization, 1303  
 re-mating, 1143  
 reaction-diffusion models, 1675, 1680, 2043  
 realized resorption, 1716  
 reciprocal replacement, 1234  
 recolonization, 2472  
 recovery from browsing, 228  
 recruitment, 885, 1512, 1928  
 recruitment variability, 2488

recruitment, importance of, 1989  
 Red Jungle Fowl, 1037  
 Red Queen, 997  
 red : far-red spectral band width, 568  
 refuges, prey vulnerability, 1125  
 refugia, 1698  
 regenerating strategies, 1436  
 regional analysis, 28  
 remote sensing, 215  
 removal experiment, 1512  
 removal experiment, simulated, 228  
 repeated grazing, 1942  
 replication, 2558  
 reproduction, 1290  
 reproductive allocation, 300  
 reproductive cycle, 1600  
 reproductive strategies, 950  
 reproductive success, 1427, 1451, 1501, 1947, 2458  
 rescue effects, 1867  
 resighting error, 880  
 resorption efficiency, 1716  
 resorption proficiency, 1716  
 resource acquisition, 1888  
 resource allocation, 2458  
 resource availability, 247, 300, 791  
 resource competition, 259, 408, 716  
 resource depletion, 2567  
 resource limitation, 1791, 2458  
 resource partitioning mechanisms, 1286  
 resource selection functions, 215  
 resource storage, 1277  
*Retama*, 1420  
 retention time, 1947  
*Rhinanthus serotinus*, 1290  
 Rhizocephala, 1989  
 rhizome physiology, 1277  
*Rhizophora mangle*, 2431  
*Rhus radicans*, 1271  
 rice landscape patterns, 1975  
 rice-field ecology, 1975  
 river discharge, 1151  
 rocky subtidal zone, 933  
 rodents, 149, 2365  
 root competition, 259  
 root hemiparasite, 1290  
 root production, 1750  
 roots, 1189  
 rotifers, 1174  
 Ruffed Grouse, 1103  
 ruminants, 2237  
 rust fungi, 2445  
 rutin, 247, 1088

## S

Saint Croix, 2488  
 salamander, larval, 1483  
*Salicornia*, 1410  
 salt marsh, 276, 736, 1410  
 sampling variation, 1633  
 San Francisco Bay, 1653  
 sandflat, 2472  
 savanna, 350  
 scaling artifacts, 2043  
 scaling factor, 2365  
*Schizocosa ocreata*, 639  
 scleractinians, 108  
 sculpins, 1928  
 seabirds, 1181  
 sea cucumbers, 1600  
 sea ice concentration, 215

- seasonal effects, 1831  
 seasonal light environments, 1738  
 seasonality, 36, 149, 300, 2098  
 sea urchin, 2269  
 seaweeds, 1950, 2269, 2287  
 secondary succession, 581  
 sediments, 1845  
 seed banks, 1427, 1436  
 seed dispersal, 595, 912, 1655  
 seed dispersal and predation, 1698  
 seed germination, 1271  
 seed mass, 1655  
 seed number, 1791  
 seed passage, 1947  
 seed predation, 2567  
 seed production, 1779  
 seed shadows, 2027  
 seed size, 500, 776, 1791  
 seed sowing, 776  
 seed traps, 595  
 seedling emergence, 2182  
 self-avoiding random walkers, 94  
 self-incompatibility, 1779  
 self-replacement, 1234  
 semi-Markov model, 108  
 semiarid zone, 133  
 senesced leaves, 1716  
 senescence, 1716, 2373  
 sensitivity analysis, 870, 2043  
 serpentine grassland, 375  
*Setophaga ruticilla*, 36  
 sex allocation, 950  
 sex differences, 1037  
 sex ratio, 521  
 sex ratio vs. temperature, 395  
 sexual architecture hypothesis, 550  
 sexual dimorphism, 461  
 sexual reproduction, 997  
 sexual selection, 1037  
 shade tolerance, 568, 841  
 shading, foliage chemistry, 2302  
 shoot competition, 259  
 short-term rate, 1303  
 shortgrass steppe, 2516  
 shrub removal, 2182  
 sigmodontine rodents, 2343  
*Silene alba*, 990  
*Silene latifolia*, 1011  
*Silphium*, 521  
 simulation model, 375  
 simulations, 108, 337, 880  
 situational sensitivity, 870  
 size assortativeness, 1586  
 size at metamorphosis, 1116  
 size constraints, 1855  
 size dimorphism, lizards, 1473  
 size distribution, 639, 1556  
 size structure, 157  
 size-structured predation, 179  
 small particle dispersal model, 595  
 snake, 149  
 social group, 1586  
 sockeye salmon, 1151  
 soft corals, 1592  
 soil microcosms, 690  
 soil carbon, 2563  
 soil characteristics, vegetation-induced differences, 2563  
 soil communities, 663  
 soil ecology, 663  
 soil fertility, 259  
 soil heterogeneity, 364  
 soil organic matter, 2516  
 soil quality, 1290  
 soil surface, 1750  
 soil temperature, 1189  
*Solidago altissima*, 1074  
 solitary bees, 1043  
 Sonoran Desert, 452, 1427, 1880  
 source-sink distribution, 1698  
 South America, 133  
 South American deserts, 746  
 Spanish Imperial Eagle, 69  
 sparrow, 452, 1880  
*Spartina alterniflora*, 276  
 spatial analysis of home range, 2075  
 spatial and temporal correlations, 28  
 spatial and temporal heterogeneity, 1544  
 spatial autocorrelation, 375, 2365  
 spatial correlation, 1698  
 spatial distributions, 75, 2393  
 spatial heterogeneity, 1125, 1845  
 spatial models, 2027  
 spatial phase transitions, 805  
 spatial scale, 2086, 2488  
 spatial scales of habitat selection, 1756  
 spatial simulation, 1011  
 spatial spread, 1680  
 spatial spread theory, 1675  
 spatial statistics, 1011  
 spatial synchrony, 207, 2365  
 spatial variation, 1427  
 spatially explicit simulation models, 2043  
 spawning, 1151  
 specialist, 170, 535  
 specialist feeder, 1088  
 specialization, 1043  
 speciation, 1319, 1355  
 species coexistence, 1427  
 species composition, long-term changes in, 2256  
 species diversity, 1344, 1355  
 species incidence, 2091  
 species interactions, 663, 681, 978, 1329, 1420, 1845  
 species introductions, protocols, 1965  
 species persistence, 2091  
 species pools, 762  
 species richness, 665, 1906, 2091  
 spectral quality, 568  
*Sphagnum fuscum*, 271  
*Spilosoma congrua*, 535  
*Spodoptera exigua*, 1088  
 spore production, 300  
 stability, 350, 762, 1125, 1329  
 stable isotope analysis, 1286  
 stage structure, 179  
 standing crop, 259  
 starlings, 1303  
 statistical inference, 2558  
 statistical methods, body-size distributions, 81  
 statistical regularities of invasion, 1661  
 statistical test, difference between spatial distributions, 75  
 stochastic population growth, 870  
 stochasticity, 1675  
 stolons, 1592  
 stomatal conductance, 1738  
 stoneflies, 1573, 1888  
 streams, 1888, 2312  
 streams, predator impact in, 1573  
 stress-induced changes, 1531  
 subalpine meadow, 1698  
 subarctic Quebec, 1226

substitutable resources, 716  
 succession, 108, 762, 1234, 1765  
 sugar maple, 1234  
 sunfish, 170  
 suppression due to browsing, 228  
 surveys of local floras, 1043  
 survival, 791, 841, 1143  
 survival rate, 1196  
 survivorship, 472, 1379  
 sustainability, 228  
 Sustainable Biosphere Initiative, 395  
 sward height, 2237  
 Sweden, 1920  
 swimming performance, 617  
 synchronous vs. non-synchronous plantings, 1975  
 synergism, 1948, 1950  
 systemic infections, 997

## T

tallgrass prairie, 521, 1738  
*Tamias*, 2352  
 tannins, condensed, 2302  
*Taraxacum officinale*, 2098  
*Taxodium*, 964  
*Tedania ignis*, 2431  
*Tegula*, 408  
 temperate forests, 1750  
 temperate rain forest, 1254  
 temperate vs. tropical seaweeds, 2269  
 temperature, 822, 1151, 1174  
 temperature, body, selected, 1163  
 temperature, diapause timing, 2382  
 temperature effects, 1808  
 temporal autocorrelation, 375  
 temporal density-dependent parasitism, 690  
 temporal variability, 1928  
 temporal variation, 1427  
 Tengmalm's Owl, 1134  
*Tenodera sinensis*, 2219  
 tens rule, 1661  
 terminal velocity, 595  
 terpene, 2287  
 terrestrial communities, 1367  
 territorial behavior, 2393  
 territoriality, 885  
 Tettigoniidae, 207  
*Thalassoma bifasciatum*, 2488  
 Thar Desert, 746  
 thermal biology, 2228  
 thermal regime, 1088  
 thermal stratification, 1556  
 thermoregulation, 1163, 2228  
 Thick-billed Murre, 1501  
*Thomomys talpoides*, 1698  
 threshold model, 2538  
 tide pool, 1928  
 Tilman model, 716  
 timberline forest soil carbon, 2563  
 time-series analysis, 725, 2332  
 tomatine, 1088  
 top-down forces, 1544, 2219  
 tortoise, 1831  
 trade-off models, 1880  
 trade-offs, 170, 408, 472  
 trait covariance, 2382  
 translocation, conservation, 1617  
 transmission, disease, 990  
 transmission coefficients, 201  
 transplant experiment, 452  
 traveling wave solutions, 1675

tree morphology, 228  
 tree mortality, 1254  
 tree seedling, 568  
 treefall gaps, 1234  
 trematode, 1390  
*Tristerix aphyllus*, 912  
 tristly, 1779  
 tritrophic-level interactions, 535, 1398, 2212  
*Troglodytes aedon*, 472  
 trophic cascades, 2219  
 trophic interactions, 1556  
 trophic polymorphism, 170  
 trophic structure, 746  
 tropical forests, 561, 568, 581  
 tropical grasslands, 2237  
 tropical moist forest, 968  
 tropical rain forest, 568  
 tropical succession, 581  
 tropical tree communities, 561  
 tropical tree seedlings, 568  
 tropics, 472  
*Tropidurus*, 1473  
 tundra ecosystems, 822, 2142, 2563  
 Turdinae, 1947  
 Turkestan Desert, 746  
 tussock tundra, 2142  
*Typha*, 1189

## U

U.S. Virgin Islands, 2488  
 ultraviolet radiation, 1531  
 uptake length and rates, streams, 854  
 Ural Owl, 1134  
*Uria lomvia*, 1501  
*Ursus maritimus*, 215  
*Ustilago violacea*, 990  
 utilization distribution, 2075

## V

*Vaccinium myrtillus*, 1436  
*Vaccinium vitis-idaea*, 1436  
*Vallisneria americana*, 435  
 vegetation dynamics, 1765  
 Verdin, 2228  
 vertebrate predation, 133  
 vertebrates, 2373  
 viability, 300  
 vigilance behavior, 1880  
 vine, 1271  
 virulence, 989  
 virus competition, 1004

## W

water balance, 2228  
 water limitation, 968  
 water python, 149  
 watercress, 2312  
 waterfowl, 1686  
 weather effects, 149, 1143, 1181  
 weed invasions in northwestern United States, 1670  
 Weibull model, 2373  
 wet meadow, 2142  
 wetland vegetation and dynamics, 1765  
 wetlands, 259, 1189, 2421  
 whole-tree transpiration, 968  
 Wilbur-Collins model, 1855  
 wildlife management, 1617  
 wind and solar radiation, 2228  
 wind dispersal, 595



wind profiles, 595  
wind speed, 964  
winter territoriality, 36  
*Witheringia solanacea*, 1947  
within-plant variation, 2287  
wolf spider, 639  
Wood Thrush, 2528  
woodlands, 805  
woody plants, 1655

## Y

Yellowstone, 1026

## Z

zebra mussel, 1686  
zonation, 1410  
zooplankton, 933, 1556  
zooplankton size structure, 900